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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,344	02/11/2002	Norbert Nicolai	37998-177952	9936
26694	7590	04/23/2004		
VENABLE, BAETJER, HOWARD AND CIVILETTI, LLP P.O. BOX 34385 WASHINGTON, DC 20043-9998				
			EXAMINER WARREN, DAVID S	
			ART UNIT	PAPER NUMBER
			2837	

DATE MAILED: 04/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/049,344	Applicant(s) NICOLAI ET AL. 	
	Examiner David S. Warren	Art Unit 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 16 and 18-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 16 and 18-33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 February 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

The finality of the previous Office Action is hereby withdrawn. However, the rejection of all claims is maintained as follows:

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 16, 18 – 21, and 23 – 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuchs in view of Stricker et al. (5,670,235). Regarding claim 16, Fuchs shows a micro-perforated sheet absorber having a proportion of hole area of 1.03%, a perforation hole diameter of 0.1 – 2.0 mm, and inter-hole distances of 2 – 20 mm. All of these values lie within the ranges claimed by the applicant. Fuchs also discloses a “non-woven absorber” (col. 4, lines 38 – 40; i.e., where the reinforcements that prevent the sound from exciting the panels into vibration, are considered to “absorb” sound – furthermore, the “foil” of Fuchs is interpreted as “non-woven”). Fuchs discloses an sound absorption range within the range as claimed by applicant (see fig. 7). Regarding claim 18, Fuchs shows a 1.03% hole area proportion. Regarding claim 19, the Fuchs range (0.1 to 2.0 mm) includes both of applicant’s claimed

ranges. Regarding claim 20, Fuchs discloses the possibility of using plural perforated sheets (col. 4, lines 34-35). Fuchs also discloses using different hole parameters (e.g., diameters, distances therebetween, etc.) to adjust to a desired sound frequency to be attenuated. This implies the use of multiple panels with different parameters for multiple frequency attenuation. Regarding claim 21, Fuchs discloses the 1.03% hole proportion with a hole diameter of 0.16 mm and inter-perforation distance of 1.4 mm apart. By increasing the hole diameter by a factor of 1.414 (i.e., the square root of two) to 0.22 mm (which is within the range disclosed by Fuchs) the hole proportion will double to 2.06% which meets the applicant's limitation of claim 21. Regarding claim 23, the applicant appears to be claiming all possibilities of hole distribution – “homogeneous” or “concentrated in areas” – the examiner is interpreting this to mean “either homogeneous or non-homogeneous.” While the Fuchs reference is silent as to hole distribution, it *must* have either a homogeneous or non-homogeneous hole distribution (since no other possibilities exist), therefore the Fuchs reference meets this limitation. Regarding claim 24, Fuchs discloses a perforated sheet thickness of 0.2 to 30 mm. Regarding claim 26, Fuchs discloses the use of perforated sheets made of either glass or plexiglass (i.e., plastic). Regarding claim 27, Fuchs discloses the use of “glued on strips” which are interpreted to be “multiple layers,” also Fuchs teaches the use of using multiple sheets. Regarding claims 28 - 30, Fuchs shows the use of using “several” (i.e., 3 or more) and the use of using multiple spacing configurations (e.g., planar – where the mutual distance is constant) and (e.g., slanted – where the mutual distance is different). Fuchs also discloses that the distance of the perforated sheet from the surface should be chosen in accordance with the frequencies that need to be attenuated. However, Fuchs does not teach using the sound-absorbing article in a vehicle (e.g., door linings,

passenger compartment linings, trunk linings, roof linings, etc.) having different layers. Stricker discloses the use of sound-absorbing vehicle linings (see Stricker's title and col. 3, line 49).

Stricker further shows that the linings are of different material and use non-woven layers (see the paragraph bridging cols. 3 and 4). It would have been obvious to one of ordinary skill in the art to combine the teachings of Fuchs and Stricker to obtain perforated sheet used to attenuate sound within a vehicle. The motivation for making this combination is that street noise (undesirable within a building – attenuated by Fuchs) would also be desirable to be attenuated within an automobile (Stricker). In other words, it would be desirable to attenuate the noises of a busy street traffic both within a building next to the street and within an automobile in the street.

#### *Response to Arguments*

The applicant has correctly noted that the new ground of rejection in the previous Office Action (November 12, 2003) was inadvertently made final. Therefore, the finality of that rejection is hereby withdrawn and the applicant's amendment (March 12, 2004) will be entered.

Applicant's arguments filed March 12, 2004 have been fully considered but they are not persuasive. The applicant argues that Fuchs does not teach the at least two sound absorbing layers (see Fuchs, col. 3, line 33) to achieve broad band sound absorption (see Fuchs, fig. 7) which lies within, and therefore obviates, the applicants claimed range limitation of 500 – 5000 Hz. The applicant argues that “there is no guidance by Fuchs et al. as to how to adopt or design a system to achieve” sound absorption over the 500 – 5000 Hz range. However, Fuchs does show guidance on how to achieve sound absorption within the range as taught by the applicant.

The applicant argues that Fuchs does not show the use of a non-woven absorber. Fuchs discloses that the panel may include a “foil” (col. 4, line 36) – foils can reasonably be defined to be non-woven. Furthermore, Striker does disclose the use of non-woven layers. The applicant argues that there is no “mention of mixing of multiple types of absorbers” – this is taught by Striker (fig. 1, col. 7, paragraph 6). The applicant argues that Fuchs nor Stricker disclose a “particular order” of the absorber types – this limitation does not appear to be claimed (claim 16 only recites a “cooperation” between types).

Finally, the applicant argues that Fuchs (civil engineering, building trades) and Stricker (automobile industry) are in different technical fields of endeavor. In this case, the field of endeavor is “sound absorption using perforated panels.” A building on a busy street and an automobile on a busy street would find the same frequencies undesirable, therefore, one of ordinary skill would be properly motivated to consider both the Fuchs and Stricker teachings.

An overview of the examiner’s rejection is as follows: Fuchs discloses the use of applicant’s claimed perforation dimensions, the use of layers (including a non-woven layer), and an overlap of the claimed absorbed frequency range. Striker discloses the use of a perforated sound absorber for use in an automobile having layers (including non-woven layers). The examiner maintains that one of ordinary skill in the art would think to combine the Striker and Fuchs references since both are concerned with perforated sound absorption panels.

*Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Warren whose telephone number is 571-272-2076. The examiner can normally be reached on M-F, 9:30 A.M. to 6:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Miller can be reached on 571-272-2800 ext 37. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

dsw



MARLON T. FLETCHER  
PRIMARY EXAMINER